

ABSTRACT OF THE DISCLOSURE

A dual-channel, double-filtering, multi-pass OSA having a narrow spectral linewidth response and high ORR comprises a diffraction grating (DG), two input ports (P1', P1'') for
5 directing first and second input light beams (LR, LT) onto the grating; a retroreflector (RAM1) for returning the dispersed light beams to the grating for dispersion again; two intermediate output ports (P2', P2'') for receiving the twice-dispersed light beams; two secondary input ports (P3', P3'') coupled to the intermediate output ports by polarization-maintaining waveguides (PMF2', PMF2'') for directing the light beams onto the grating a
10 third time, with their SOPs having a predetermined orientation relative to the SOPs of the first and second light beams when first incident upon the grating, the retroreflector (RAM1) returning the three-times-dispersed light beams to the grating for dispersion a fourth time; and two output ports (P4', P4'') for receiving the light beams after dispersion the fourth time.